

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte JOSEPH EDWARD PIEL, JR., ROBERT STEPHEN LEWANDOWSKI  
and BRADY ANDREW JONES

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Appeal No. 2001-0018  
Application 08/998,559

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ON BRIEF

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Before JERRY SMITH, BARRETT and RUGGIERO, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 6-12, which constitute all the claims remaining in the application. An amendment after final rejection was filed on October 7, 1999 and was entered by the examiner.

The disclosed invention pertains to a combined acoustic backing and interconnect module for connecting an array of ultrasonic transducer elements to a multiplicity of cable conductors which utilizes the volume of the backing layer to extend a high density of interconnections perpendicular to the transducer array.

Representative claim 6 is reproduced as follows:

6. A combined acoustic backing and interconnect module comprising:

a first flexible planar circuit board having a first multiplicity of conductive traces, and support means attached to opposing sides of a section of said first flexible circuit board and having a planar surface extending generally perpendicular to said section of said first flexible planar circuit board, an end of each of said first multiplicity of conductive traces being exposed at said planar surface of said support means, said support means being made of acoustic damping material.

The examiner relies on the following reference:

Kawabe et al. (Kawabe)	4,825,115	Apr. 25, 1989
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Claims 6-12 stand rejected under 35 U.S.C. § 103. As evidence of obviousness the examiner offers Kawabe taken alone.

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the examiner and the evidence of obviousness relied upon by the examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejection and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 6-12. Accordingly, we reverse.

Appellants have indicated that for purposes of this appeal the claims will all stand or fall together as a single group [brief, page 3]. Consistent with this indication appellants have made no separate arguments with respect to any of the claims on appeal. Accordingly, all the claims before us will stand or fall together. Note In re King, 801 F.2d 1324, 1325, 231 USPQ 136, 137 (Fed. Cir. 1986); In re Sernaker, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983). Therefore, we will consider

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the rejection against independent claim 6 as representative of all the claims on appeal.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness.

Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been considered and are deemed to be waived [see 37 CFR § 1.192(a)].

With respect to representative, independent claim 6, the examiner discusses what is disclosed by Kawabe, and the examiner acknowledges that Kawabe teaches L-shaped circuit boards rather than planar circuit boards as claimed. The examiner notes, however, that Kawabe discloses the importance of reducing reflections caused by the circuit boards. The examiner determines that it would have been obvious to the artisan to use

planar circuit boards in Kawabe instead of the disclosed L-shaped circuit boards for the purpose of reducing reflections [answer, page 3].

Appellants argue that the circuit boards of Kawabe are required to be bent into an L-shape in order to reduce reflection at the bonding points 5 which are positioned at an edge portion of the back electrode 2A. Appellants also argue that Kawabe does not teach the claim recitation that an end of each of the first multiplicity of conductive traces being exposed at the planar surface of the support means. Appellants note that the bonding in Kawabe is spaced inward from the end of the wiring line [brief, pages 4-5].

The examiner responds that it would have been obvious to the artisan to minimize the "L" part of the circuit board in Kawabe to reduce reflections. The examiner finds that the minimization of the contact area in Kawabe creates a planar wiring board. The examiner also notes that an L-shaped wiring board includes a planar portion, which meets the claimed invention. The examiner also responds that the placement of the contact area in Kawabe is simply the result of using an L-shaped wiring board [answer, pages 3-4].

Appellants respond that the printed wiring board 6 of Kawabe is truly L-shaped and includes an edge portion [reply brief].

Based on the record before us, we do not sustain the examiner's rejection of claims 6-12. The examiner acknowledges that the circuit board in Kawabe is L-shaped as argued by appellants. Since Kawabe desires to minimize reflection, the examiner proposes to minimize the L-portion of the circuit board to the point where the circuit board becomes planar as claimed. The examiner does not address the question of why Kawabe teaches the minimization of reflection, yet Kawabe still requires that a portion of the circuit board be folded into an L-shape. Kawabe uses this L-shape portion of the circuit board to bond the circuit board to the piezoelectric array. The examiner does not indicate how Kawabe would bond a planar circuit board. Since Kawabe was aware of the reflection problem but still chose to use an L-shaped circuit board, the only suggestion for using a planar circuit board as claimed comes from appellants' own disclosure.

We also note that an L-shaped circuit board does not meet the claim recitation of a planar circuit board as argued by the examiner. While a portion of an L-shaped circuit board may be planar as asserted by the examiner, the claim requires a "planar

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circuit board," not a planar circuit board portion. Therefore, the examiner has failed to provide a proper factual record to support his position of obviousness. Accordingly, the decision of the examiner rejecting claims 6-12 is reversed.

REVERSED

JERRY SMITH	)	
Administrative Patent Judge	)	
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	)	
LEE E. BARRETT	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
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	)	
JOSEPH F. RUGGIERO	)	
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